Outfall 002A – TCE Exceedance in April 2018 and Plan of Action

The TCE concentration in the sample from outfall 002A (groundwater infiltration) was 30 ppb this month, compared to a permit limit of 5 ppb.

We believe this exceedance was due to the following:

- Full capture of dry weather flow was not being achieved at the time of sample collection at a recovery flow rate of 36.2 gallons per minute (gpm).
    - The maximum achievable dry-weather flow recovery rate was below 40 gpm at the time of sampling due to poor influent water quality from the storm sewer (i.e. high total suspended solids due to road-salt/sand from snowmelt and organics) negatively impacting GWTP operations (i.e. increased fouling of air stripper, bag filters and carbon).
- Note: Sustained dry weather flow in excess of 40 gpm has been observed in the month of April and is attributed to the seasonally high groundwater table resulting in abnormally high rates of groundwater infiltration into the storm sewer system.

The reasons for this conclusion are as follows:

1. Flow was observed going over the baffle and the overflow switch, installed at the top of the baffle, was engaged.
2. The estimated flow going over the baffle at the time of sample collection was approximately 8.5 gpm. This flow was determined by taking the difference of the measured flow at 002A (88.3 gpm) at the time of sample collection (4/30/18 at 8:15 AM) and subtracting the effluent (002B) flow (79.8 gpm) at that time.
3. Combining the estimated flow going over the baffle, 8.5 gpm, with the measured dry weather recovery flow rate of 36.2 gpm yields a total dry weather flow at the time of sample collection of approximately 44.7 gpm.

The following corrective action(s) is (are) being implemented in the next few months:

1. Modify GWTP treatment train to include pre-filtration of dry-weather flow from storm sewer before transfer to influent equalization tank for treatment, with other influent sources, and discharge of clean effluent. All auxiliary equipment is designed to handle at least 50 gpm and the control logic will allow for dry-weather flow catchment system to operate independently of the rest of the GWTP treatment train.
    a. This is expected to:
        i. Allow for the overburden recovery rate to be increased, thus reducing the overburden infiltration contribution to dry weather flow, and the bedrock well to remain online, while sustaining dry weather catchment system recovery between 40 and 50 gpm; and
        ii. Reduce the likelihood of total system shutdowns due to increased loading on the primary system bag filters (post-air stripper).